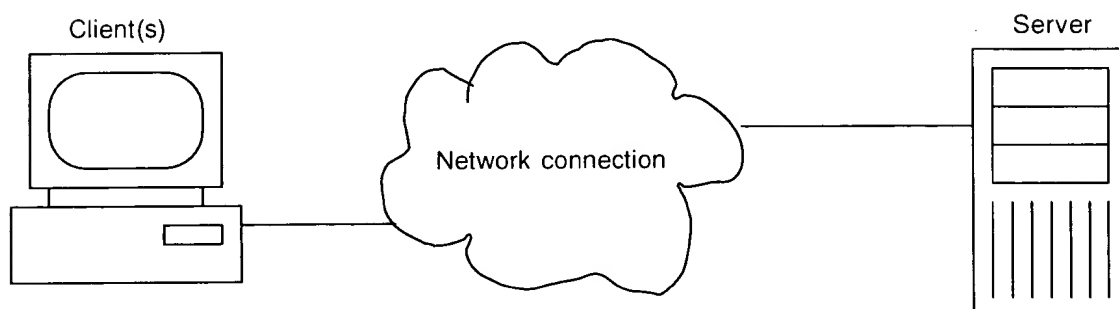


Preferred Embodiment Minimal configuration (Single Server)

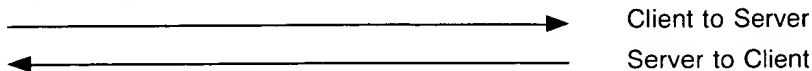
Fig. 0a



If valid cookie present, skip to step 3...

- | | | |
|------|---|-----------------------------------|
| (0) | Client retrieves disclaimer / registration, etc. page | |
| (1) | Client submits acceptance / registration data, etc. | |
| (2) | Server replies with cookie data initialization | |
| (3) | Client retrieves user interface for simulation, calculation, etc. | |
| (4) | Client submits data for calculation: calculation data | (data saved) |
| (5) | Server returns "Processing" message w/ emb. refresh + updated cookie data | |
| (6) | Client auto refresh to getresults.pl + new cookie data | (authenticate & check vs. limits) |
| (7a) | "Overuse" message | if fail |
| (7b) | Results (Any combo of markup, graphics and data)* | if succeed |

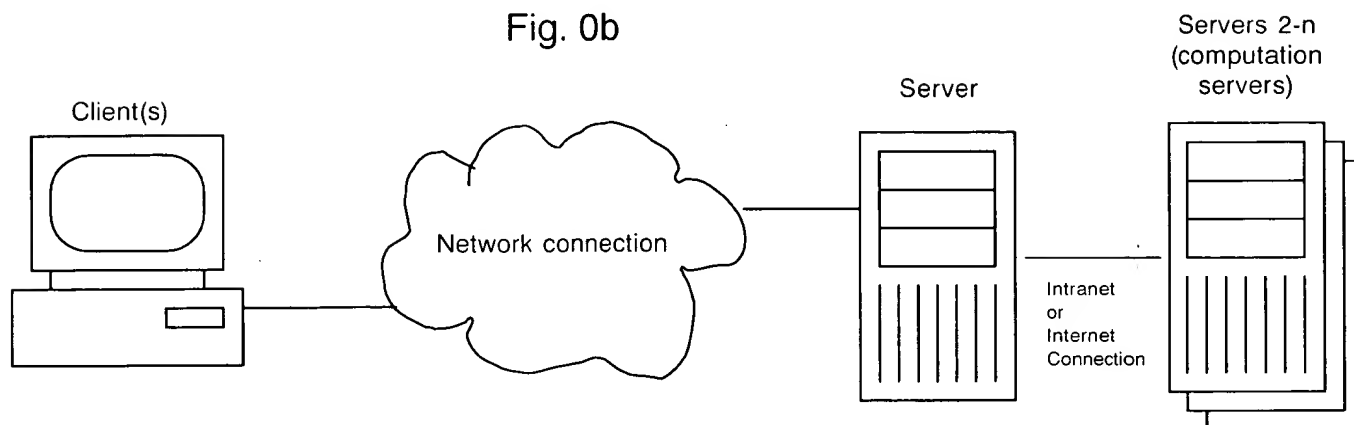
*In drawings 1-4 Client instigates data transfer,
arrows indicate direction of transfer*



OPTIONAL VALIDATION DATABASE NOT SHOWN
IS TYPICALLY COLOCATED WITH VALIDATION PROCESS,
BUT CAN BE LOCATED ANYWHERE ON AN INTERNET OR INTRANET

Internet Server combined with one or more Private Computation Servers

Fig. 0b



If valid cookie present, skip to step 3...

- (0) Client retrieves disclaimer / registration, etc. page
 (1) Client submits acceptance / registration data, etc.
 (2) Server replies with cookie data initialization

(3) Client retrieves user interface for simulation, calculation, etc.

(4) Client submits data for calculation: calculation data (data saved)

(5) Server returns "Processing" message w/ emb. refresh + updated cookie data

(6) Client auto refresh to getresults.pl + new cookie data (authenticate & check vs. limits)

(7a) "Overuse" message if fail

if succeed → compute
 Choose server
 and send
 relevant data

Return raw data

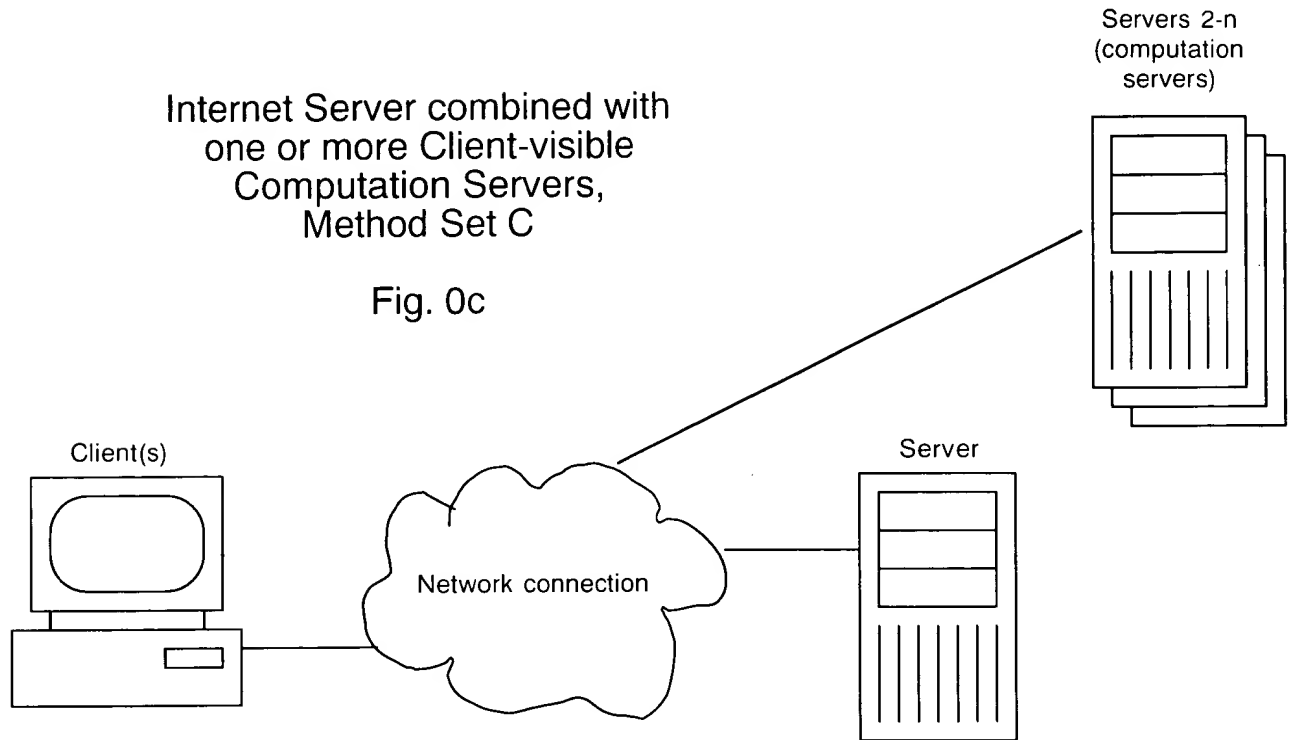
(7b) Results (Any combo of markup, graphics and data)*

(optional)
 format raw data

OPTIONAL VALIDATION DATABASE NOT SHOWN
 IS TYPICALLY COLOCATED WITH VALIDATION PROCESS,
 BUT CAN BE LOCATED ANYWHERE ON AN INTERNET OR INTRANET

Internet Server combined with
one or more Client-visible
Computation Servers,
Method Set C

Fig. 0c



If valid cookie present, skip to step 3...

- | | |
|-----|---|
| (0) | Client retrieves disclaimer / registration, etc. page |
| (1) | Client submits acceptance / registration data, etc. |
| (2) | Server replies with cookie data initialization |

(3) Client retrieves user interface for simulation, calculation, etc.

(4) Client submits data for calculation: calculation data (data saved)

(5) Server returns "Processing" message w/ emb. refresh + updated cookie data

(6) Client auto refresh to getresults.pl + new cookie data (authenticate & check vs. limits)

(7a) "Overuse" message

if fail
if succeed → compute

Choose server
and send
relevant data,
forward client
to computation
server

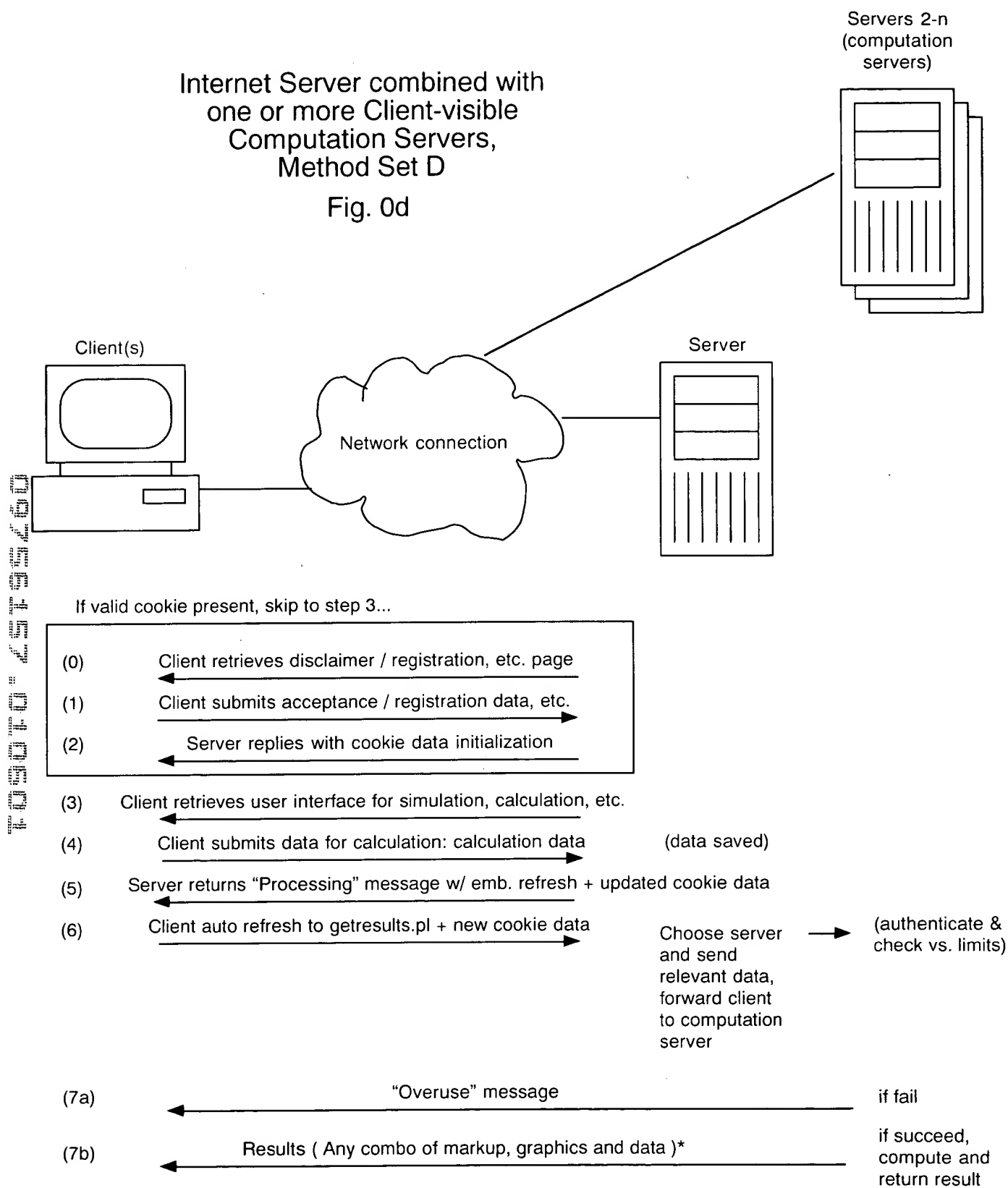
(7b) Results (Any combo of markup, graphics and data)*

and return
results

OPTIONAL VALIDATION DATABASE NOT SHOWN
IS TYPICALLY COLOCATED WITH VALIDATION PROCESS,
BUT CAN BE LOCATED ANYWHERE ON AN INTERNET OR INTRANET

Internet Server combined with
one or more Client-visible
Computation Servers,
Method Set D

Fig. 0d



OPTIONAL VALIDATION DATABASE NOT SHOWN
IS TYPICALLY COLOCATED WITH VALIDATION PROCESS,
BUT CAN BE LOCATED ANYWHERE ON AN INTERNET OR INTRANET

Disclaimer - Netscape

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Sign

Bookmarks Location <http://24.218.251.135/cgi-bin/Stackup/ci.pl>

Search Projects Members BizJournal SmartUpdate Mkiplace Switchboard INTELLICAST Alta Vista Adv

DISCLAIMER AND TERMS OF USE

By using this software you agree to be bound by the following terms and conditions: (Please read carefully then click ACCEPT or DECLINE at the bottom of this page)

All software and associated materials are the property of Rode Consulting, Inc and / or ChipCenter, LLC. You are granted a non-exclusive, non-transferable limited license to use the software and any associated services only in the manner in which they are provided. You agree not to disassemble, modify or reverse-engineer any software provided.

THIS SOFTWARE IS NOT INTENDED FOR SALE OR RESALE AND SHOULD NOT REPLACE STANDARD ENGINEERING PRACTICE. YOU SHOULD ALWAYS USE PROFESSIONAL JUDGEMENT TO CHECK THE ACCURACY OF CALCULATIONS.

ALL MATERIALS ARE PROVIDED 'AS IS' WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. YOU ASSUME THE ENTIRE RISK AS TO THE USE, QUALITY AND PERFORMANCE OF THIS SOFTWARE.

MATERIALS AND SERVICES ARE 'AS AVAILABLE' AND MAY BE MODIFIED OR WITHDRAWN AT ANY TIME.

IN NO EVENT WILL RODE CONSULTING, INC. OR ITS PARTNERS OR ASSIGNS BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

USE OF THIS SOFTWARE IN THE DESIGN OR CONTROL OF MACHINERY INVOLVED IN 'HIGH-RISK' ACTIVITIES, i.e. ACTIVITIES WHERE FAILURE OF THIS SOFTWARE COULD REASONABLY BE EXPECTED TO CAUSE DEATH, INJURY OR THE RELEASE OF HAZARDOUS MATERIALS, IS NOT PERMITTED.

DATA SUBMITTED DURING USE OF THIS SOFTWARE COULD BE OBSERVED BY A THIRD PARTY. YOU ACKNOWLEDGE THAT ALL SUCH DATA ARE PUBLICLY VISIBLE AND REPRESENT THAT DISCLOSURE CREATES NO BREACH OF CONFIDENTIALITY OR LAW.

This software is subject to U.S. export control laws, including the U.S. Export Control Act and its associated regulations, and may be subject to export or import regulations in other countries. You agree to comply with all such regulations and to obtain all necessary export/import licenses. This software may not be exported into, or to a national or resident of Cuba, Iran, Iraq, Libya, North Korea, Syria or Yugoslavia (Serbia, Montenegro, U.N. Protected Areas and areas of the Republic of Bosnia and Herzegovina under the control of Bosnian Serb forces), or any other country to which the U.S. has embargoed goods or to anyone on the U.S. Treasury Department's list of Specialty Designated Nations or the U.S. Commerce Department's Table of Denial Orders.

SPICE is copyright 1990-1993 by the Trustees of the University of California at Berkeley.

All trade and service marks are the property of their respective holders. In particular: GIF(om) is a Service Mark property of CompuServe Incorporated.

Non-LZW-based GIF compression code copyright 1998, by Hutchinson Avenue Software Corporation (<http://www.hasc.com/>, info@hasc.com)

Applet AcceptDecline running

Fig. 1
D5

FIG. 2A

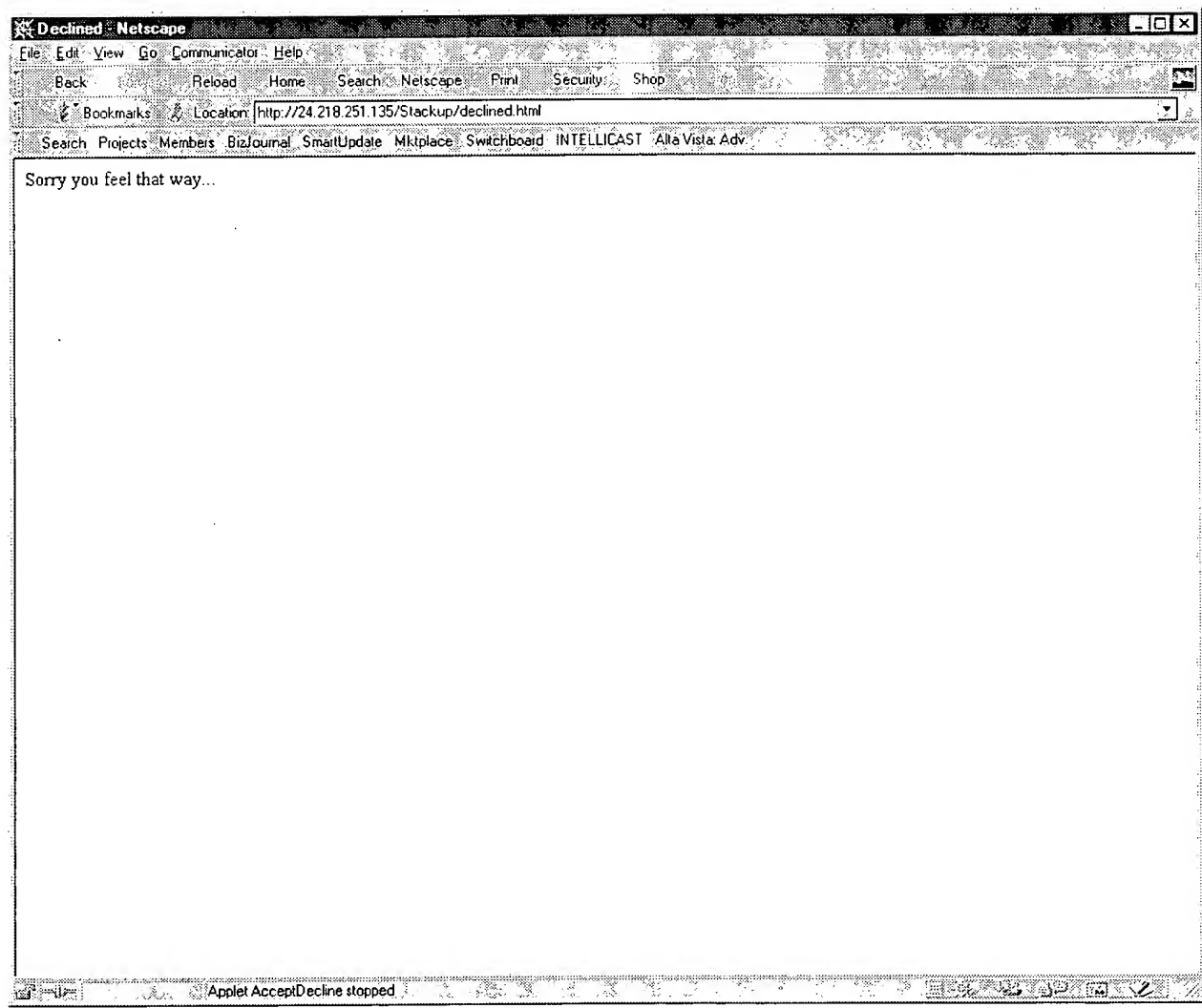


Fig. 2A
D6

Netscape: EHPERIMENTAL PCB Cross Section Editor

Location: <http://24.218.253.91/cgi-bin/FieldExtractor2/ci.pl> What's Related

Configuration: Coupled Microstrips Units: mil

Setup

Extract: Execute

Upper Left X: Upper Left Y:

Width: Height:

Buried depth: Name:

Copper: Copper

Rel. permittivity: Loss tangent:

Conductivity (S/in): Modulus (E11 psi):

Thermal conductivity:

Instructions

This evaluation version is limited to just two signal lines; no geometry can be added. Standard configurations are most easily created by selecting a Configuration first, then clicking "Setup" and entering the desired parameters.

A setup can then be customized by modifying the position or size of the signal line with the numeric entry panel at left. After you're satisfied with the new numeric values, press **Enter** to make the changes permanent. Alternatively, you can click-drag the geometry into approximate position and then use the up or down arrows to nudge into final position.

You can see how far the selected item is from its adjacent elements by moving the cursor over the adjacent element of interest. If elements overlap, a negative number is shown.

Fig. 2B
D7

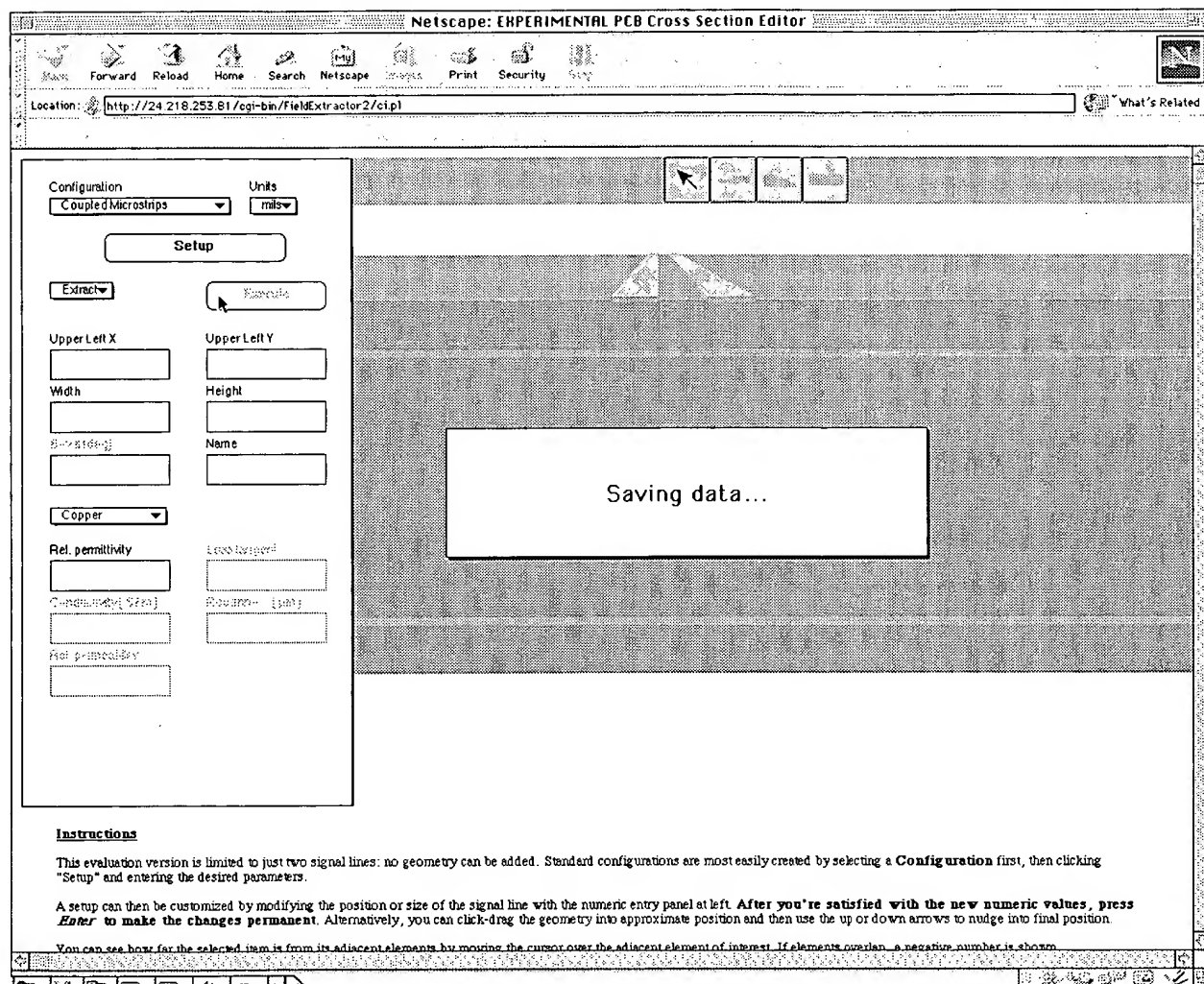


Fig. 3
D8

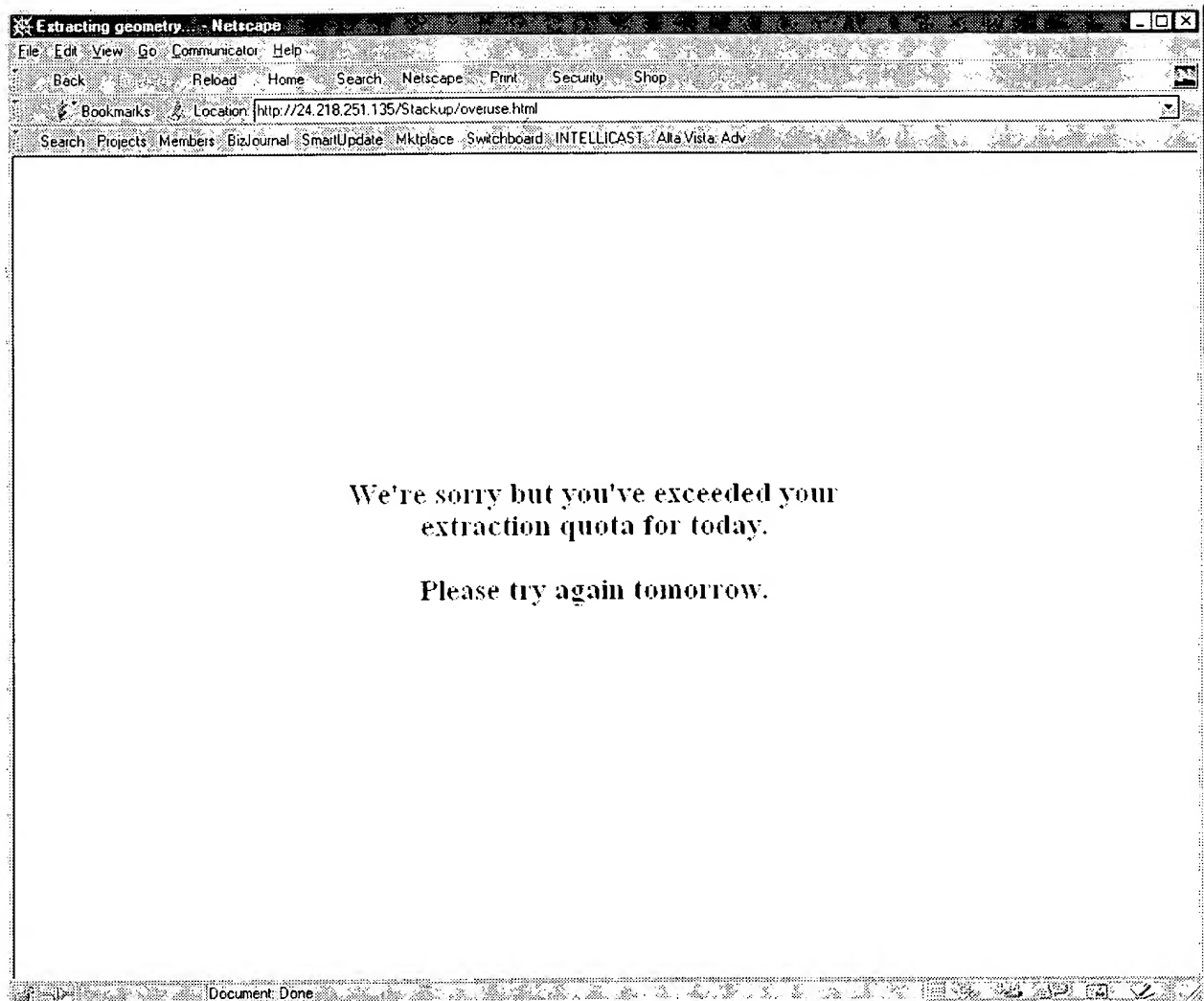


Fig. 4A
D9

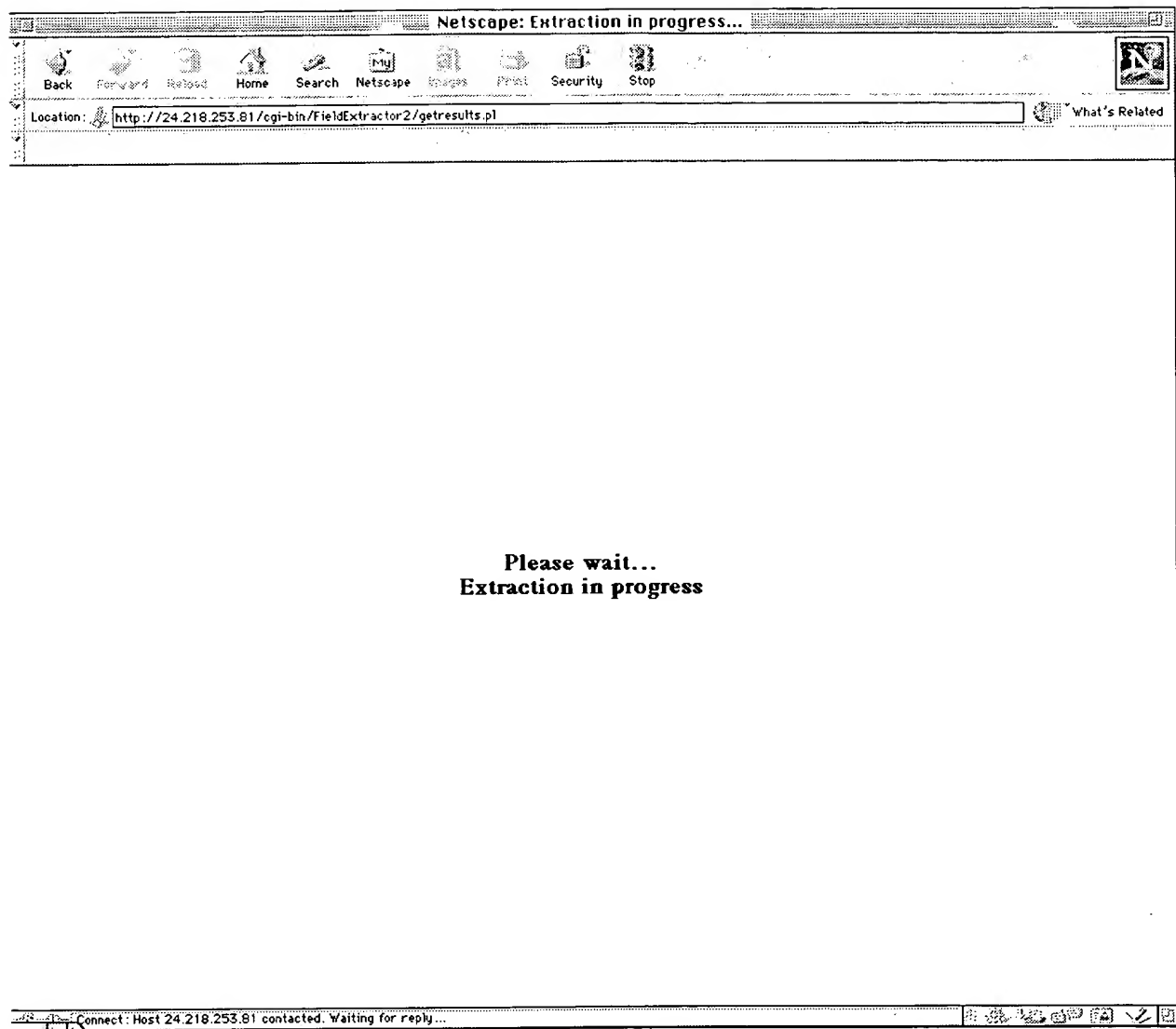


Fig 4B
D10

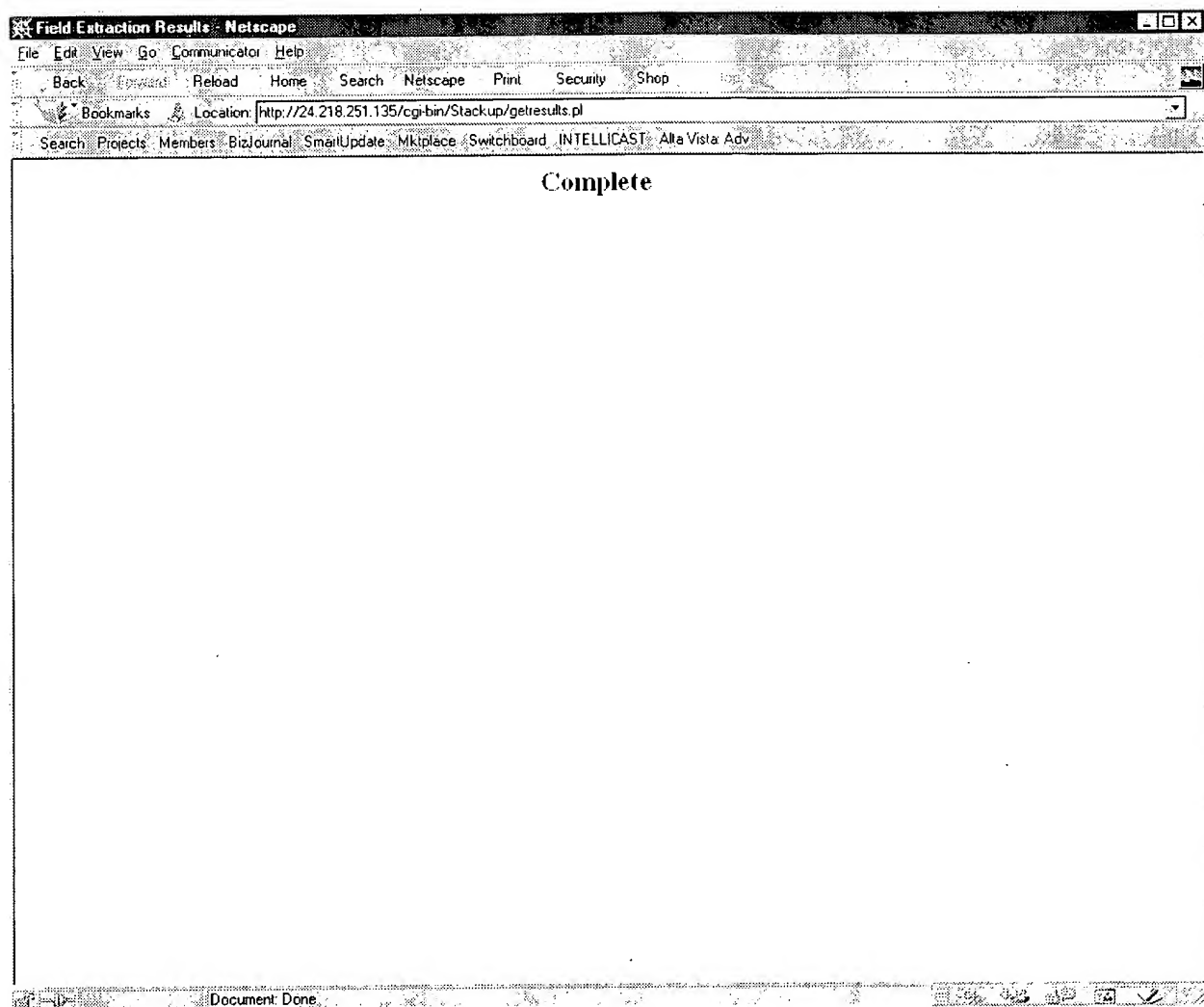


Fig 5
D11